

respiration in a subject, increase glycolytic flux in a subject, treat a neurodegenerative disease in a subject, treat multiple sclerosis in a subject, treat epilepsy in a subject, treat a mitochondrial disorder in a subject, improve athletic performance in a subject, and/or improve cognitive performance in a subject.

7.-8. (canceled)

9. The pharmaceutical composition of claim 6, wherein the effective amount is one or both of an amount effective to treat Alzheimer's disease in a subject and an amount effective to treat Parkinson's disease in a subject.

10.-16. (canceled)

17. A method for increasing cellular respiration in a cell, the method comprising contacting the cell with a compound of claim 1.

18. (canceled)

19. A method of increasing a ratio of cytosolic NAD^+ to NADH in a cell, the method comprising contacting the cell with a compound of claim 1.

20. (canceled)

21. A method of increasing glycolytic flux in a cell, the method comprising contacting the cell with a compound of claim 1.

22. (canceled)

23. A method of increasing cellular respiration in a subject, the method comprising administering to the subject an effective amount of a compound of claim 1.

24. The method of claim 23, wherein the subject is suffering from a neurodegenerative disease, multiple sclerosis, and/or epilepsy.

25.-34. (canceled)

35. A method of increasing glycolytic flux in a subject, the method comprising administering to the subject an effective amount of a compound of claim 1.

36. The method of claim 35, wherein the subject is suffering from a neurodegenerative disease, multiple sclerosis, and/or epilepsy.

37.-46. (canceled)

47. A method of treating a subject suffering from a neurodegenerative disease, the method comprising administering an effective amount of a compound of claim 1.

48. The method of claim 47, wherein the neurodegenerative disease comprises one or more of Alzheimer's disease, Parkinson's disease, and amyotrophic lateral sclerosis.

49.-53. (canceled)

54. A method for increasing ketone levels in a subject, the method comprising administering to the subject a compound of claim 1.

55. The method of claim 54, wherein the method comprises administering to the subject an effective amount of the compound, wherein the effective amount is an amount that increases ketone levels in the subject.

56.-59. (canceled)

60. A method of treating a subject suffering from multiple sclerosis, the method comprising administering an effective amount of a compound of claim 1 to the subject, wherein the effective amount is an amount effective to treat multiple sclerosis.

61. A method of treating a subject suffering from epilepsy, the method comprising administering an effective amount of a compound of claim 1 to the subject, wherein the effective amount is an amount effective to treat epilepsy.

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